

REMARKS

Claims 1-48 are presently pending. Claim 43 has been amended. This amendment is fully supported by the original specification. New dependent claims 46-48 have been added. Support for new claims 46-8 can be found in the original specification at, for example, page 6, lines 8-9; Examples 1 and 2; and original claim 1, 5, and 9. No new matter has been added.

Reconsideration of the present application and entry of the above amendments in view of the following remarks are respectfully requested.

I. REJECTION OF CLAIM 43 UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claim 43 has been rejected as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Although applicants respectfully disagree, claim 43 has been amended herein to clarify the claim language and more particularly point out and distinctly claim the subject matter which applicants regard as the invention. It is believed that this amendment overcomes the objection under 35 U.S.C. § 112, second paragraph.

II. REJECTIONS OF CLAIMS 1-45 UNDER 35 U.S.C. § 103(a)

Claims 1-43 and 45 have been rejected as allegedly being unpatentable over U.S. Patent No. 6,162,492 to Narayanan ("Narayanan"), and claims 1-45 have been rejected as allegedly being unpatentable over Narayanan in view of U.S. Patent No. 4,434,207 to Franey ("Franey") or U.S. Patent No. 4,388,137 to McCarty *et. al.* ("McCarty"). These rejections are respectfully traversed.

A. Claims 1-43 and 45 are Patentable over Narayanan

Claims 1-43 and 45 are directed to a multilayer pressure sensitive correction tape comprising: (A) a release liner, (B) a masking layer on the release liner, and (C) a pressure sensitive adhesive layer on the masking layer, wherein the masking layer and/or pressure sensitive adhesive layer is radiation cured.

As stated in the specification of the present application, "radiation curing" or "curing" means a process of using ionizing energy (radiation) to induce reactive monomers or oligomers to polymerize" or "the process in which ionizing radiation is used to induce cross-

linking between polymer chains.” Specification, page 7, lines 17-20. As stated in the specification, “[o]ligomers or polymers suitable for radiation curing are those having free functional or reactive moieties such as vinyl, acrylate, methacrylate, vinyl ether, and epoxy. Such reactive oligomers or polymers can optionally contain more than one reactive group. ... The use of monomers with more than one reactive group blended with such suitable oligomers produces a coating with a coatable viscosity plus a high degree of cross-linking.” Specification, page 7, lines 8-14. The specification also states: “Such radiation curing produces an infusible (non-melttable) three-dimensional cross-linked polymer network.” Specification, page 4, lines 7-10. The radiation-cured layers of the present invention “exhibit improved film toughness, improved resistance to ink ‘bleed through’, infusibility, and essentially no solubility in organic solvents or water.” Specification, page 3, lines 7-9.

Narayanan is directed to a multi-layer correcting material that includes a removable film and an adhesive layer. Narayanan, Abstract. As acknowledged in the Office Action dated April 4, 2003, Narayanan does not disclose or suggest a “masking layer or pressure sensitive adhesive layer (or, it is presumed, both) [which] are radiation cured” as required by the present claims. Narayanan does not disclose or suggest that its correcting material or any part of it is radiation cured. Narayanan does not even disclose or suggest a multilayer correction tape, wherein the correction medium layer and/or pressure sensitive adhesive layer can or should undergo further reaction, let alone curing. (*See, also*, Amendment filed June 18, 2003, page 10, line 14 to page 11, line 3).

Narayanan does not even disclose or suggest any reactive monomers, oligomers or polymers that can be radiation cured. The covering layer of Narayanan is formed from a “film-forming binding agent” and “binding agents that act in a friable manner.” Narayanan, col. 1, line 67; col. 2, line 19. Narayanan states that “[f]ilm-forming binding agents are, for example, terpolymer dispersions based on vinyl acetate and acrylic acid esters” and “copolymers based on acrylic acid esters with the use of acrylonitrile.” Narayanan, col. 2, lines 10-17. Narayanan further states that “binding agents that act in a friable manner are, for example, acrylic polymers, particularly those in ammonia” and “copolymers containing carboxylic groups based on acrylic acid esters.” Narayanan, col. 2, lines 18-24. Thus, Narayanan does not disclose or suggest any reactive monomers, oligomers or polymers, but instead discloses terpolymer dispersions (based on vinyl acetate and acrylic acid esters) (col. 2, lines 10-11), “acrylic polymers, particularly those in ammonia” (col. 2, line 20), and copolymers containing carboxylic groups (based on acrylic acid esters) (col. 2, lines 24-25) in the covering layer. There is no disclosure or suggestion in

Narayanan that these terpolymers, polymers, and copolymers include any reactive monomers or oligomers that are available for a curing reaction, or that such terpolymers, polymers, and copolymers can be cross-linked using ionizing radiation. In addition, there is no disclosure or suggestion in Narayanan that the adhesive layer includes any reactive monomers or oligomers that are available for a curing reaction, or that there is a polymer in the adhesive layer that can be cross-linked using ionizing radiation. Accordingly, one of ordinary skill in the art would not find motivation in Narayanan to radiation cure the covering layer or adhesive layer of Narayanan. Declaration under 36 C.F.R. § 1.132 by Michael T. Nowak (“Nowak Declaration”), ¶¶ 8 and 9.

Moreover, one of ordinary skill in the art would not find motivation to radiation cure the layers of Narayanan because “[e]ven if the film-forming binding agent recited in Narayanan contained reactive vinyl acetate and/or acrylonitrile monomer (which it does not), these monomers are relatively volatile and would tend to vaporize during a radiation curing process as a result of localized heating.” Nowak Declaration, ¶ 12. As known to one skilled in the art, volatilization of vinyl acetate and acrylonitrile during radiation curing would likely lead to films that are non-uniform, contain structural defects, and/or contain unreacted monomer entrained within the cured film. *Id.* Therefore, one of ordinary skill in the art would not radiation cure a terpolymer or copolymer film having monomers such as vinyl acetate or acrylonitrile. *Id.*

Also, as known in the art, vinyl acetate and acrylonitrile are suspected carcinogens. Thus, as explained in the Nowak Declaration, “[o]ne of ordinary skill in the art would not use volatile, suspected carcinogens such as vinyl acetate and acrylonitrile in a radiation curing process where heating effects would likely cause the monomers to vaporize and increase the risk of exposure.” Nowak Declaration, ¶ 13.

Narayanan does not even disclose or suggest a multilayer correction tape, wherein the correction medium layer and/or pressure sensitive adhesive layer can or should undergo further reaction, let alone curing. For example, the covering layer of Narayanan’s correction tape is applied as an aqueous suspension “by means of a doctor blade onto a carrier foil that is preferably siliconized in a different way on the two sides.” Narayanan, col. 2, lines 46-48. An adhesive layer is then applied over the covering layer “[a]fter the drying of the layer containing pigment.” Narayanan, col. 2, lines 60. One of ordinary skill in the art would not expect that a covering layer formed *only* by *drying* an aqueous polymer suspension as taught by Narayanan would provide an infusible three-dimensional cross-linked polymer

network like that formed in the present invention by radiation curing. Nowak Declaration, ¶¶ 6 and 7.

Moreover, even if radiation were applied to the layers of Narayanan (which it is not), such layers would not necessarily be cured to form a cross-linked network. *See, e.g.,* Lenz, R., *Organic Chemistry of Synthetic High Polymers* 749 (1967) (the “Lenz reference”) (which was submitted with the Amendment filed on January 5, 2004, and a copy of which is attached to the Nowak Declaration as Exhibit 1). The Lenz reference states that:

both ultraviolet light and ionizing radiation are responsible for two general type of reactions: chain scission and cross-linking. The competition between these two reactions determines whether the net result of exposure of a polymer to radiation will be formation of low molecular weight fragments of that polymer or the formation of insoluble, infusible network structure.

Thus, radiant energy degrades a polymer and undesirable chain scission competes with polymer cross-linking. Accordingly, as known in the art and explained in the Lenz reference, polymeric layers such as those described in the tape of Narayanan *may* form an “insoluble, infusible network structure” or they *may* degrade into undesirable “low molecular weight fragments” upon application of radiation, particularly when no free functional or reactive moieties are present. Nowak Declaration, ¶¶ 10 and 11. Therefore, because the response of polymers to radiation curing is unpredictable, one of ordinary skill in the art would not radiation-cure the layers of Narayanan to obtain the correction tape of the present invention. Nowak Declaration, ¶ 11.

In addition, with respect to claim 43, Narayanan also does not disclose or suggest that “the masking layer and the pressure sensitive adhesive layer contain no volatile components when they are applied to the correction tape assembly” as recited in claim 43. In fact, Narayanan discloses that his marking layer is applied as an aqueous suspension. (Col. 2, lines 37-39 and 46). Narayanan further discloses drying of such layer. (Col. 2, line 60; col. 3, line 31; Examples 1 and 2). Narayanan also discloses “drying the adhesive coating.” (Col. 3, line 37; see also Examples 1 and 2). Because Narayanan discloses that the marking layer is applied as an aqueous solution and that both layers are dried after application, Narayanan *teaches away* from a marking layer and a pressure sensitive adhesive layer that contain no volatile components when they are applied to the correction tape as required by claim 43. Thus, for this additional reason, Narayanan does not disclose or suggest a correction tape as recited in claim 43.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981 (CCPA 1974). "When obviousness is based on a particular prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of the reference." *B.F. Goodrich Company v. Aircraft Braking Systems Corporation*, 72 F.3d 1577, 1582 (Fed. Cir. 1996). The Federal Circuit has stated that it is improper to apply an "obvious-to-try" analysis under 35 U.S.C. § 103. *Gillette Co. v. S.C. Johnson & Son, Inc.*, 919 F.2d 720, 725 (Fed. Cir. 1990). The relevant inquiry is whether the prior art suggests the claimed invention, and whether that prior art would have indicated a reasonable expectation of success to one of ordinary skill in the art. *In re O'Farrell*, 853 F.2d 894, 902-03 (Fed. Cir. 1988). Both the suggestion and expectation of success must be found in the prior art, not in Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991).

It is respectfully submitted that Narayanan does not disclose or suggest all the claim limitations; one of ordinary skill in the art would not find motivation in Narayanan to obtain the present invention; and there would not be a reasonable expectation of success to one of ordinary skill in the art to obtain the present invention. Thus, it is believed that claims 1-43 and 45 are patentable over Narayanan. Accordingly, Applicants respectfully request withdrawal of this rejection and allowance of pending claims 1-43 and 45.

B. Claims 1-45 are patentable over Narayanan in view of Franey or McCarty

Claims 1-43 and 45 were shown above to be patentable over Narayanan. For the reasons discussed above, it is also believed that claim 44, which recites that the "masking layer or pressure sensitive adhesive layer is cured by radiation," is also patentable over Narayanan.

As discussed above, Narayanan does not disclose or suggest a masking layer and/or pressure sensitive adhesive layer that is radiation cured" as recited in the present claims. Narayanan does not even disclose or suggest a multilayer correction tape, wherein the correction medium layer and/or pressure sensitive adhesive layer can or should undergo further reaction, let alone curing. In addition, Narayanan does not disclose or suggest that Narayanan's layers include any reactive monomers or oligomers that are available for a curing reaction, or any polymers that can be cross-linked. Also, one skilled in the art would not radiation cure the correction material of Narayanan to obtain the present invention.

The deficiencies of Narayanan are not overcome by Franey or McCarty for the following reasons.

1. Franey

Franey is directed to “correction mediums for lift-off correction by impact” (Col. 1, lines 8-9). Franey discloses that the “[p]rinting suitable for lift-off correction is removed bodily after impact of the correction medium against printed characters. A bond with the correction medium forms. The correction medium is removed, and the print stays with the correction medium . . . The correction medium of this invention is not adhesive or tacky prior to impact.” Franey, col. 1, lines 9-16.

Franey does not disclose or suggest a multilayer pressure sensitive correction tape as presently claimed. That is, Franey does not disclose or suggest a correction tape having three layers including a release liner, a masking layer on the release liner, and a pressure sensitive adhesive layer on the masking layer, as recited in the present claims. Moreover, Franey discloses that the correction medium of the Franey is not adhesive or tacky, thereby teaching away from the use of an adhesive layer. Also, Franey’s correction medium is used for removing printed characters, not to mask printed characters as in the present invention. Thus, Franey does not disclose or suggest, and in fact, teaches away from the presently-claimed invention. Since Franey teaches away from the present invention, one of ordinary skill in the art would not find motivation in Franey to obtain the present invention.

An obviousness rejection based on a combination of references requires some teaching or motivation to combine the references. *In re Dembiczak*, 175 F.3d 994 (Fed. Cir. 1999) (“our case law makes clear that the best defense against the subtle but powerful attraction of hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references”) abrogated on other grounds by *In re Gartside*, 203 F.3d 1305 (Fed. Cir. 2000). This teaching or motivation must be provided by the prior-art, for example, the references themselves. *Id.* at 997.

One skilled in the art would not find motivation in Narayanan or Franey to combine the teachings of these references to obtain the present invention, where Narayanan does not even disclose or suggest that its covering layer or adhesive layer undergo further reaction, much less radiation curing, and one skilled in the art would not radiation cure the layers of Narayanan for the reasons discussed above. See Nowak Declaration, ¶¶ 9 and 11-

13. One skilled in the art would also not find motivation in Narayanan or Franey to combine the teachings of these references to obtain the present invention, where Franey does not even disclose or suggest, and in fact, teaches away from, a correction tape having three layers, including a release liner, a masking layer, and a pressure sensitive adhesive layer.

In addition, Narayanan teaches, *inter alia*, that his multi-layer correction tape is applied to a substrate and shows “good stripping-off properties”, *i.e.*, a transfer correction tape where the removable covering film stays affixed to the substrate. (*See, e.g.*, Narayanan, col. 2, lines 6-7; col. 3, lines 39-40; and col. 4, lines 6-7). In contrast, Franey discloses a correction medium for removing printed characters, not to cover printed characters or other material as in the present invention. Thus, one of ordinary skill in the art would also not find motivation in either reference to combine the teachings of Narayanan and Franey to obtain the present invention where Narayanan teaches a covering film to affix to a substrate, and Franey teaches a correction medium for removing printed characters.

Therefore, it is believed that claims 1-45 are patentable over Narayanan and Franey, whether taken alone or in combination. Accordingly, withdrawal of this rejection and allowance of pending claims 1-45 are respectfully requested.

2. McCarty

McCarty describes a process for applying a coating composition to a carrying web which is then brought into contact with a substrate to form a sandwich. McCarty, col., lines 24-29; col. 11, lines 21-42. The resultant sandwich is subject to “a radiation curing process wherein said coating composition is polymerized and set on the surface on said porous substrate.” McCarty, col. 11, line 43 to col. 12, line 2. McCarty does not disclose or suggest a multilayer pressure sensitive correction tape that includes a masking layer and a pressure sensitive adhesive layer on the masking layer as recited in claims 1-43 and 45. In addition, McCarty does not disclose or suggest providing a masking layer and providing a pressure sensitive adhesive layer as recited in claim 44. Moreover, by requiring that the coating composition is applied to a carrying web and then brought into contact with the substrate to form a sandwich, McCarty teaches away from the use of a masking layer and a pressure sensitive adhesive layer. Thus, McCarty does not disclose or suggest the presently-claimed invention.

One skilled in the art would not find motivation in Narayanan or McCarty to combine the teachings of these references to obtain the present invention, where Narayanan

does not even disclose or suggest that its covering layer or adhesive layer undergo further reaction, much less radiation curing, and one skilled in the art would not radiation cure the layers of Narayanan for the reasons discussed above. See Nowak Declaration, ¶¶ 9 and 11-13. In addition, one skilled in the art would also not find motivation in Narayanan or McCarty to combine the teachings of these references to obtain the present invention, particularly where McCarty does not even disclose or suggest, and in fact, teaches away from, a correction tape having a masking layer, and a pressure sensitive adhesive layer.

Therefore, it is believed that claims 1-45 are patentable over Narayanan and McCarty, whether taken alone or in combination. Accordingly, withdrawal of this rejection and allowance of pending claims 1-45 are respectfully requested.

III. NEW CLAIMS 46-48 ARE ALLOWABLE

New claims 46-48 depend (directly or indirectly) from claims 1, 43, and 44, and recite that wherein the reactive monomer comprises acrylate or methacrylate. Since independent claims 1, 43, and 44 were shown above to be patentable over the cited references, it is believed that new claims 46-48 are also patentable over the cited references for the reasons discussed above. Therefore, allowance of the new claims is respectfully requested.

IV. CONCLUSION

Applicants respectfully submit that the present claims are now in condition for allowance and request an early issuance of a Notice of Allowance in connection with the present application. An early notice to that effect would be appreciated. Should the Examiner not agree with Applicants' position, then a personal or telephonic interview is respectfully requested to discuss any remaining issues and expedite the eventual allowance of the application.

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Respectfully submitted,

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Enclosures